

## ABSTRACT

A solder-coated article is described. The article comprises (1) a dielectric core having a largest dimension ranging from 1 to 1000 microns; (2) a solderable metal  
5 layer over the core; and (3) a solder layer over the metal layer. Preferably, the dielectric core is a spherical core of ceramic or glass material that ranges from 25 to 200 microns in diameter. Copper and nickel are preferred materials for the solderable metal layer. The solder is preferably selected from a solder comprising lead and tin and a solder comprising lead and indium, more preferably a 63%Sn-37%Pb solder, a  
10 95%Pb-5%Sn solder, or a 50%Pb-50%In solder. Also described are modified substrates and (solder bonded assemblies) that can be created using such solder-coated articles, as well as a procedure for making the same.

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